UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,968	09/09/2003	Youngja Park	YOR920030241US1 (16751)	3125

23389 7590 06/23/2010

SCULLY SCOTT MURPHY & PRESSER, PC
400 GARDEN CITY PLAZA
SUITE 300
GARDEN CITY, NY 11530

EXAMINER	
SAINT CYR, LEONARD	

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
06/23/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/658,968	PARK, YOUNGJA	
	Examiner	Art Unit	
	LEONARD SAINT CYR	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1– 11, 13 – 15, 19 – 23, and 27 – 30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1– 11, 13 – 15, 19 – 23, and 27 – 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/24/03* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 – 11, 13 – 15, 19 – 23, and 27 - 30 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that neither Golsmith nor Kanno representing all of the words in the collection as Patricia trees to show visually morphological structures of the words, including using the words to construct first and second tries, each of the tries having a multitude of paths and a multitude of nodes, each of the nodes being connected to one or more of the other nodes, and compressing the first and second tries by compressing all unary paths on the tries to form a prefix Patricia tree and suffix Patricia tree (Amendment, pages 9 – 13).

Claim Rejections - 35 USC § 101

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims **21 – 23, 27, and 28** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. **Claims 21 – 23, 27, and 28** are directed to a computer readable medium storing processor executable instructions that is not limited to a non-transitory, and thus, statutory medium. The scope of "program storage device readable" is not defined in the specification; that means it can encompass a signal/carrier wave. Since the scope of " program storage

device readable " can include these non-statutory instances, claims **21 – 23, 27, and 28** are directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1– 11, 13 – 15, 19 – 23, and 27 – 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldsmith (US Patent 6,405,161) in view of Kanno (US Patent 7,103,536), further in Rizin et al., (US Patent 6,098,034); and further in view Potter (US Patent 7,167,825).

As per claim 1, Goldsmith discloses a computer system for analyzing text in one or more electronic documents (see col. 3 lines 66-67 - col. 4, lines 1-4), comprising: one or more system interfaces (see fig. 2, element 202 and 208 and col. 6, lines 34 - 40);and

an affix process that determines one or more affixes of one or more words in one or more of the documents and provides the affixes to the system interface (see fig. 1 step 104 and col. 5, lines 22-24);

obtaining collection of words; refining the sets of candidate prefixes and suffixes to identify actual prefixes ("regular prefix signatures") and suffixes ("identify regular signatures") , including using knowledge of prefixes previously identified in said refining, to further refine the set of candidate suffixes (**"sequence of letters should be removed from the suffix")** and using knowledge of suffixes previously identified in said refining

to further refine the set of candidate prefixes (**"If such a prefix signature is found on two or more roots, then it is strictly regular, and the prefixes in it are regular prefixes in the language"**; See also figs 4, and 5 that describe the refinement process; Abstract, col.8, lines 50 – 52; col.11, lines 52 – 61; col.12, line 55 - col.13, line 13).

Goldsmith does not specifically representing all of the words in the collection as Patricia trees to show visually morphological structures of the words, including using the words to construct first and second tries, each of the tries having a multitude of paths and a multitude of nodes, each of the nodes being connected to one or more of the other nodes, and compressing the first and second tries by compressing all unary paths on the tries to form a prefix Patricia tree and suffix Patricia tree; adding the words into a prefix Patricia Tree, using the prefix Patricia Tree to identify a set of candidate prefixes, reversing each of the words, adding the reversed words into a suffix Patricia Tree, using the suffix Patricia Tree to identify a set of candidate suffixes.

Kanno discloses a data structure, **such as Patricia Tree**; an efficient retrieval method for complete matching and **prefix matching** is realized by using the data structure called TRIE; **reversing a word and adding it to a Patricia tree for ("postfix") suffix matching** (see col. 1, lines 36 – 39, and 44 – 47; col.31, lines 52 - 55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use prefix and suffix matching as taught by Kanno in Goldsmith, because that would help improve the retrieving system (col.3, lines 25 - 29).

Goldsmith in view Kanno do not specifically teach specifically representing all of the words in the collection as Patricia trees to show visually morphological structures of the words, including using the words to construct first and second tries, each of the tries having a multitude of paths and a multitude of nodes, each of the nodes being connected to one or more of the other nodes, and compressing the first and second tries by compressing all unary paths on the tries to form a prefix Patricia tree and suffix Patricia tree.

Razin et al., teach that **a trie is "path compressed" if only nodes with more than one child are represented. Paths of nodes with only one outgoing edge are compressed into one node,** which is then labeled by the entire sequence of elements from its parent (the parent of the first node in the path) to the last node in the path. **A " suffix tree" is a path compressed trie** where the set of sequences represented are all the suffixes of some given source sequence (col.10, lines 50 – 62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to compress tries into Patricia tree as taught by Razin et al., in Goldsmith in view Kanno, because that would help improve the retrieving system (Kanno; col.3, lines 25 - 29).

Goldsmith in view Kanno in view of Razin et al., do not specifically teach specifically representing all of the words in the collection as Patricia trees to show visually morphological structures of the words.

Potter teaches representing all of the words in the collection as Patricia trees to show visually morphological structures of the words ("makes use of a word memory in

the form of a **tree, e.g. a trie** (a tree data structure for letters, derived from "information retrieval"), or preferably a graph, **consisting (a) of full word forms, i.e. inflected words, which then are correlated with other inflected words, or (b) of morphologically syntactic analyses of the words, e.g. according to inflection classes, and in particular splitting into word prefixes radices and suffixes";** col.20, line 65 - col.21, line 5).

Goldsmith in view Kanno in view of Razin et al., contain a base process of identifying suffixes and prefixes within a text which the claimed invention can be seen as an improvement in representing all of the words in the collection as Patricia trees to show visually morphological structures of the words.

Potter contains a known technique of representing all of the words in the collection as Patricia trees to show visually morphological structures of the words (col.20, line 65 - col.21, line 5) would have recognized by one skilled in the art as applicable to the base process of Goldsmith in view Kanno in view of Razin et al., and the results would have been predictable and resulted in representing all of the words in the collection as Patricia trees to show visually morphological structures of the words, including using the words to construct first and second tries, each of the tries having a multitude of paths and a multitude of nodes, each of the nodes being connected to one or more of the other nodes, and compressing the first and second tries by compressing all unary paths on the tries to form a prefix Patricia tree and suffix Patricia tree which results in an improved process.

Therefore, the claimed subject matter would have been obvious to a person having ordinary skill in the art at the time the invention was made.

As per claim 2, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose where one or more of the affixes are nested affixes, each nested affix comprising one or more affixes ("identifying prefix nested phrases"; Goldsmith; see col. 6, lines 1-5; Razin et al., col.4, lines 40 - 43).

As per claim 3, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose where the affix process determines one or more suffixes of one or more of the words ("affixes such as prefixes and suffixes"; Goldsmith see fig. 1, step 104; col. 5, lines 22- 24; col.1, lines 14 - 16).

As per claim 4, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose where one or more of the suffixes are nested suffixes, each nested suffix comprising one or more suffixes ("identifying suffix nested"; Goldsmith see col. 6, lines 1-5; Razin et al., col.4, lines 40 - 45).

As per claim 5, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose where the affix process determines one or more infixes of one or more of the words ("infix matching"; Kanno, Abstract).

As per claim 6, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose where one or more of the infixes are nested infixes, each nested infix comprising one or more infixes ("suffixes ing and ingly"; Goldsmith see col. 1, lines 19-22 and see col. 6, lines 1-5; see also Kanno, col.3, lines 26 – 29 "Infix matching"; Razin et al., col.4, lines 40 - 45).

As per claim 7, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose wherein the affix process determines one or more prefixes of one or more of the words (Goldsmith; see fig. 1 step 108 and col. 6, lines 9-10; col.1, lines 14 - 16).

As per claim 8, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further suggest wherein one or more of the prefixes are nested prefixes, each nested prefix comprising one or more prefix ("affixes such as prefixes and suffixes"; Goldsmith; see col. 13, lines 6-7).

As per claim 9, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose where the interface compiles a list of affixes ("suffixes") that are in one or more of the documents ("corpus is a text"; Goldsmith; see col. 5, lines 62 - 66; col.5, lines 13 - 16).

As per claim 10, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose where the affixes are not listed in a dictionary that is accessible to the system (Goldsmith; see col. 5, lines 37-38, where the affix is determined by determining the optimal division, not by referring to a dictionary)

As per claim 11, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose where the system interface is any one or more of the following: a graphical user interface, a print out, an interface to a text analysis system ("an attached printer"; Goldsmith; see fig. 2, lines elements 202 and 208 and see col. 6, lines 31-40).

As per claim 12, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose that the affix process uses a Patricia tree to show substrings of words (Kanno; see col. 1, lines 36 – 39, and 44 – 47; col.31, lines 52 - 55).

As per claim 13, Goldsmith discloses a method for analyzing text in one or more electronic documents (see col. 3 lines 66-67 - col. 4, lines 1-4), comprising the steps:

using a computer system to perform an affix process that determines one or more affixes of one or more words in one or more of the electronic documents (see fig. 2 and col. 6, lines 31-33, where the method of fig. 1, describes the affix determination process); and

providing the determined one or more of the affixes to an interface of the computer system for display to a user ("visual display"; see fig. 2, element 208 and col. 6, lines 39-40);

the step of using the computer system includes the steps of obtaining collection of words; refining the sets of candidate prefixes and suffixes to identify actual prefixes ("regular prefix signatures") and suffixes ("identify regular signatures") , including using knowledge of prefixes previously identified in said refining, to further refine the set of candidate suffixes (**"sequence of letters should be removed from the suffix")** and using knowledge of suffixes previously identified in said refining to further refine the set of candidate prefixes (**"If such a prefix signature is found on two or more roots, then it is strictly regular, and the prefixes in it are regular prefixes in the language"**; See also figs 4, and 5 that describe the refinement process; Abstract, col.8, lines 50 – 52; col.11, lines 52 – 61; col.12, line 55 - col.13, line 13).

Goldsmith does not specifically representing all of the words in the collection as Patricia trees to show visually morphological structures of the words, including using the words to construct first and second tries, each of the tries having a multitude of paths and a multitude of nodes, each of the nodes being connected to one or more of the other nodes, and compressing the first and second tries by compressing all unary paths on the tries to form a prefix Patricia tree and suffix Patricia tree; adding the words into a prefix Patricia Tree, using the prefix Patricia Tree to identify a set of candidate prefixes, reversing each of the words, adding the reversed words into a suffix Patricia Tree, using the suffix Patricia Tree to identify a set of candidate suffixes.

Kanno discloses a data structure, **such as Patricia Tree**; an efficient retrieval method for complete matching and **prefix matching** is realized by using the data structure called TRIE; **reversing a word and adding it to a Patricia tree for ("postfix") suffix matching** (see col. 1, lines 36 – 39, and 44 – 47; col.31, lines 52 - 55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use prefix and suffix matching as taught by Kanno in Goldsmith, because that would help improve the retrieving system (col.3, lines 25 - 29).

Goldsmith in view Kanno do not specifically teach specifically representing all of the words in the collection as Patricia trees to show visually morphological structures of the words, including using the words to construct first and second tries, each of the tries having a multitude of paths and a multitude of nodes, each of the nodes being connected to one or more of the other nodes, and compressing the first and second tries by compressing all unary paths on the tries to form a prefix Patricia tree and suffix Patricia tree.

Razin et al., teach that **a trie is "path compressed" if only nodes with more than one child are represented. Paths of nodes with only one outgoing edge are compressed into one node,** which is then labeled by the entire sequence of elements from its parent (the parent of the first node in the path) to the last node in the path. **A " suffix tree" is a path compressed trie** where the set of sequences represented are all the suffixes of some given source sequence (col.10, lines 50 – 62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to compress tries into Patricia tree as taught by Razin et al., in Goldsmith in view Kanno, because that would help improve the retrieving system (Kanno; col.3, lines 25 - 29).

Potter teaches representing all of the words in the collection as Patricia trees to show visually morphological structures of the words ("makes use of a word memory in the form of a **tree, e.g. a trie** (a tree data structure for letters, derived from "information retrieval"), or preferably a graph, **consisting (a) of full word forms, i.e. inflected words, which then are correlated with other inflected words, or (b) of morphologically syntactic analyses of the words, e.g. according to inflection classes, and in particular splitting into word prefixes radices and suffixes";** col.20, line 65 - col.21, line 5).

Goldsmith in view Kanno in view of Razin et al., do not specifically teach specifically representing all of the words in the collection as Patricia trees to show visually morphological structures of the words.

Goldsmith in view Kanno in view of Razin et al., contain a base process of identifying suffixes and prefixes within a text which the claimed invention can be seen as an improvement in representing all of the words in the collection as Patricia trees to show visually morphological structures of the words.

Potter contains a known technique of representing all of the words in the collection as Patricia trees to show visually morphological structures of the words (col.20, line 65 - col.21, line 5) would have recognized by one skilled in the art as

applicable to the base process of Goldsmith in view Kanno in view of Razin et al., and the results would have been predictable and resulted in representing all of the words in the collection as Patricia trees to show visually morphological structures of the words, including using the words to construct first and second tries, each of the tries having a multitude of paths and a multitude of nodes, each of the nodes being connected to one or more of the other nodes, and compressing the first and second tries by compressing all unary paths on the tries to form a prefix Patricia tree and suffix Patricia tree which results in an improved process.

Therefore, the claimed subject matter would have been obvious to a person having ordinary skill in the art at the time the invention was made.

As per claim 21, Goldsmith teach a program storage device readable by machine, tangibly embodying a program of instructions executed by the machine to perform method steps for analyzing text in one or more electronic documents (see col. 3 lines 66-67 - col. 4, lines 1-4), said method steps comprising:

using a computer system to perform an affix process that determines one or more affixes of one or more words in one or more of the electronic documents (see fig. 2 and col. 6, lines 31-33, where the method of fig. 1, describes the affix determination process); and

providing the determined one or more of the affixes to an interface of the computer system for display to a user ("visual display"; see fig. 2, element 208 and col. 6, lines 39-40);

the step of using the computer system includes the steps of obtaining collection of words; refining the sets of candidate prefixes and suffixes to identify actual prefixes ("regular prefix signatures") and suffixes ("identify regular signatures") , including using knowledge of prefixes previously identified in said refining, to further refine the set of candidate suffixes (**"sequence of letters should be removed from the suffix")** and using knowledge of suffixes previously identified in said refining to further refine the set of candidate prefixes (**"If such a prefix signature is found on two or more roots, then it is strictly regular, and the prefixes in it are regular prefixes in the language**"; See also figs 4, and 5 that describe the refinement process; Abstract, col.8, lines 50 – 52; col.11, lines 52 – 61; col.12, line 55 - col.13, line 13).

Goldsmith does not specifically representing all of the words in the collection as Patricia trees to show visually morphological structures of the words, including using the words to construct first and second tries, each of the tries having a multitude of paths and a multitude of nodes, each of the nodes being connected to one or more of the other nodes, and compressing the first and second tries by compressing all unary paths on the tries to form a prefix Patricia tree and suffix Patricia tree; adding the words into a prefix Patricia Tree, using the prefix Patricia Tree to identify a set of candidate prefixes, reversing each of the words, adding the reversed words into a suffix Patricia Tree, using the suffix Patricia Tree to identify a set of candidate suffixes.

Kanno discloses a data structure, **such as Patricia Tree**; an efficient retrieval method for complete matching and **prefix matching** is realized by using the data structure called TRIE; **reversing a word and adding it to a Patricia tree for**

("postfix") suffix matching (see col. 1, lines 36 – 39, and 44 – 47; col.31, lines 52 - 55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use prefix and suffix matching as taught by Kanno in Goldsmith, because that would help improve the retrieving system (col.3, lines 25 - 29).

Goldsmith in view Kanno do not specifically teach specifically representing all of the words in the collection as Patricia trees to show visually morphological structures of the words, including using the words to construct first and second tries, each of the tries having a multitude of paths and a multitude of nodes, each of the nodes being connected to one or more of the other nodes, and compressing the first and second tries by compressing all unary paths on the tries to form a prefix Patricia tree and suffix Patricia tree.

Razin et al., teach that **a trie is "path compressed" if only nodes with more than one child are represented. Paths of nodes with only one outgoing edge are compressed into one node,** which is then labeled by the entire sequence of elements from its parent (the parent of the first node in the path) to the last node in the path. **A " suffix tree" is a path compressed trie** where the set of sequences represented are all the suffixes of some given source sequence (col.10, lines 50 – 62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to compress tries into Patricia tree as taught by Razin et al., in Goldsmith in view Kanno, because that would help improve the retrieving system (Kanno; col.3, lines 25 - 29).

Goldsmith in view Kanno in view of Razin et al., do not specifically teach specifically representing all of the words in the collection as Patricia trees to show visually morphological structures of the words.

Potter teaches representing all of the words in the collection as Patricia trees to show visually morphological structures of the words ("makes use of a word memory in the form of a **tree, e.g. a trie** (a tree data structure for letters, derived from "information retrieval"), or preferably a graph, **consisting (a) of full word forms, i.e. inflected words, which then are correlated with other inflected words, or (b) of morphologically syntactic analyses of the words, e.g. according to inflection classes, and in particular splitting into word prefixes radices and suffixes";** col.20, line 65 - col.21, line 5).

Goldsmith in view Kanno in view of Razin et al., contain a base process of identifying suffixes and prefixes within a text which the claimed invention can be seen as an improvement in representing all of the words in the collection as Patricia trees to show visually morphological structures of the words.

Potter contains a known technique of representing all of the words in the collection as Patricia trees to show visually morphological structures of the words (col.20, line 65 - col.21, line 5) would have recognized by one skilled in the art as applicable to the base process of Goldsmith in view Kanno in view of Razin et al., and the results would have been predictable and resulted in representing all of the words in the collection as Patricia trees to show visually morphological structures of the words, including using the words to construct first and second tries, each of the tries having a

multitude of paths and a multitude of nodes, each of the nodes being connected to one or more of the other nodes, and compressing the first and second tries by compressing all unary paths on the tries to form a prefix Patricia tree and suffix Patricia tree which results in an improved process.

Therefore, the claimed subject matter would have been obvious to a person having ordinary skill in the art at the time the invention was made.

As per claims 14, and 22 Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose wherein at least one of the affixes is a nested affix including a plurality of affixes ("identifying prefix nested phrases"; Goldsmith; see col. 6, lines 1-5; Razin et al., col.4, lines 40 - 43).

As per claims 15, and 23 Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose, the step of, said interface compiling a list of the determined one or more affixes ("affixes such as prefixes and suffixes"; Goldsmith; see col. 5, lines 62-66).

As per claims 19, and 27 Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose that the using step includes the further step of counting stems, which meet defined criteria, for the affixes for the words in said set of words ("**identifying stems, and multiplets of related stems**"; Goldsmith; see col. 6, lines 66 -col. 7, line 7; col.1, lines 48 - 50).

As per claims 20, and 28 Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disambiguating at least some of the potential affixes to identify nested affixes ("identifying suffix nested"; Goldsmith see col. 6, lines 1-5; Razin et al., col.4, lines 40 - 45).

As per claim 29, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further disclose a plurality of the affixes include non-alphabetic characters including digits and hyphens (col.5, lines 62 – 67). Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter do not specifically teach disambiguating some of the affixes; generating new affixes from the disambiguated affixes. However, a morphology for a language has been developed by a trained linguist working manually to identify the appropriate stems and affixes and other structural features of a language (col.1, lines 18 – 22). One having ordinary skill in the art at the time the invention was made would have found it obvious to disambiguate affixes in Goldsmith, because that would help collect and organize stems and associated affixes (col. 1, lines 15, and 16).

As per claim 30, Goldsmith in view of Kanno in view of Razin et al., and further in view of Potter further discloses that the prefix Patricia tree includes a multitude of internal nodes and strings for the internal nodes; the suffix Patricia tree includes a multitude of internals nodes and strings for the internal nodes of the suffix Patricia tree

(Kanno; see col. 1, lines 36 – 39, and 44 – 47; col.31, lines 52 – 55; Razin et al., col.10, lines 50 – 62);

in the prefix Patricia tree, all the strings for the internal nodes of the prefix Patricia tree are potential prefixes, and in the suffixes Patricia tree, all the strings for the internal nodes of the suffix Patricia tree are potential suffixes (“**such as Patricia Tree**; an efficient retrieval method for complete matching and **prefix matching** is realized by using the data structure called TRIE; **reversing a word and adding it to a Patricia tree for (“postfix”) suffix matching”;** Kanno; see col. 1, lines 36 – 39, and 44 – 47; col.31, lines 52 – 55; Razin et al., col.10, lines 50 – 62).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571) 272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS
06/15/10
/Leonard Saint-Cyr/

Examiner, Art Unit 2626